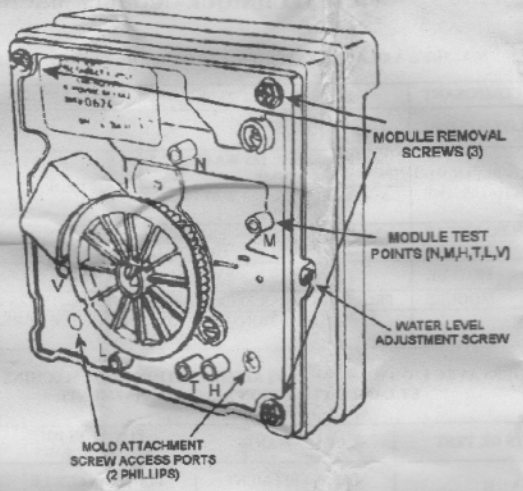
MODULAR ICE MAKER & ICE LEVEL DETECTOR SERVICE SHEET

ICEMAKER SPECIFICATIONS (120 VOLT MODEL):

COMPONENT	25' & 27' MODELS	22' MODELS
WATER FILL	130CC, 7.5 SEC	86CC, 7.5 SEC
MOLD HEATER	Non-Finned: 185 WATTS, 72 OHMS Finned: 260 WATTS, 51 OHMS	All: 185 WATTS, 72 OHMS
THERMOSTAT (BIMETAL)	CLOSE 17° +/- 3° OPEN 32° +/- 3°	
MOTOR	3.2-1.5 WATTS, 4,400-8,800 OHMS	
MODULE	STAMPED CIRCUIT, PLUG IN CONNECTORS	
CYCLE	ONE REVOLUTION (EJECTS ICE & WATER FILL)	

ICEMAKER MODULE



MODULE OHMMETER CHECKS (NO POWER TO ICEMAKER & EJECTOR BLADES IN PARK)

TEST POINTS	COMPONENT	MODULE POSITION	OHMS
L - H	MOLD HEATER	ATTACHED TO SUPPORT	72 / 51 (see mold heater above)
L - M	MOTOR	DISCONNECT FROM SUPPORT	8800

MODULE VOLTAGE CHECKS WITH METER OR TEST LIGHT (POWER TO ICEMAKER)

TEST POINTS	COMPONENT	LINE VOLTAGE	0 VOLTS
L - N	MODULE	POWER OK	NO POWER
T - H	BIMETAL	OPEN	CLOSED
L - H	HEATER	ON	OFF
L - M	MOTOR	ON	OFF
N - V	WATER VALVE	ON	OFF

WATER LEVEL ADJUSTMENT

TURNING THE ADJUSTMENT SCREW (SEE PICTURE ABOVE) CLOCKWISE DECREASES THE WATER FILL.

· MAXIMUM ADJUSTMENT IS ONE FULL TURN IN EITHER DIRECTION. ADDITIONAL ROTATION COULD DAMAGE THE MODULE.

ICEMAKER DIAGNOSTICS PROCEDURE:

1. PERFORM THE OPTICS DIAGNOSTIC PROCEDURE

OPTICS DIAGNOSTICS PROCEDURE:

STEP #	STATUS LED	POSSIBLE CAUSES	ACTION
A. OPEN THE FREEZER DOOR	1.A.1. **2 PULSES** FOLLOWED BY A 1 SECOND DELAY. (REPEATED)	THE FLAPPER DOOR ON THE EMITTER IS BLOCKING THE BEAM.	GO TO STEP 2.
		THE OPTICS ARE FAULTY	GO TO STEP 2.
	1.A.2. NO LAMP	ICEMAKER IS IN THE HARVEST MODE.	PRESS IN THE FREEZER DOOR SWITCH. WHEN IN THE HARVEST MODE THE STATUS LED WILL BLINK 1 FLASH EVERY SECOND.
		FAULTY DIAGNOSTICS LED	REPLACE RECEIVER BOARD.
B. PRESS IN THE EMITTER FLAPPER DOOR TO UN-BLOCK THE BEAM.	1.B. 1. PULSES FOLLOWED BY A 1 SECOND DELAY. (REPEATED)	THE OPTICS ARE FAULTY	REPLACE EMITTER & RECEIVER BOARD
	1.B.2. LED IS ON SOLID	OPTICS ARE WORKING CORRECTLY	CLOSE FREEZER DOOR

2. DISCONNECT THE POWER SUPPLY
3. SLIDE THE ICEMAKER OUT, REMOVE COVER.
4. JUMP "T" & "H" TO BYPASS THE BIMETAL AND START A HARVEST.
5. CONNECT THE POWER SUPPLY.
6. CLOSE THE FREEZER DOOR TO ALIGN THE OPTICS AND A HARVEST CYCLE WILL BEGIN IN 5 SECONDS.
7. OPEN THE FREEZER DOOR AND OBSERVE THE ICEMAKER.
IF "T" TO "H" IS PROPERLY JUMPERED AND THE ICEMAKER WON'T RUN STOP TEST AND CHECK THE ICEMAKER.

8. REMOVE THE JUMPER BEFORE THE FINGERS REACH 10:00. REINSTALL THE ICEMAKER OR BE PREPARED TO CATCH THE WATER FILL.
9. IMMEDIATELY DISCONNECT POWER AFTER THE WATER FILL.
10. WITH THE FREEZER DOOR CLOSED, RECONNECT THE POWER SUPPLY.
11. WAIT 5 SECONDS AND OPEN THE FREEZER DOOR AND WATCH THE STATUS LED.

STATUS LED OUTPUT CODE:

4 PULSES, REPEATED ONCE INDICATES THE RELAY IS DEFECTIVE. REPLACE BOTH THE EMITTER AND RECEIVER BOARDS.
3 PULSES, REPEATED ONCE, INDICATES OPTICS AND RELAY ARE GOOD, BUT I/M IS NOT BEING SENSED/WILL NOT OPERATE.

- CHECK BAIL ARM SWITCH. (MUST BE ON)
- CHECK I/M CIRCUIT AND CONNECTIONS BACK TO THE RECEIVER BOARD AND NEUTRAL.
- CHECK I/M COMPONENTS.

2 PULSES, REPEATED ONCE, INDICATES OPTICS ARE DEFECTIVE. REPEAT STEP ONE AND REPLACE BOTH BOARD IF NECESSARY.
STEADY LIGHT FOR 5 SECONDS INDICATES THE RELAY AND OPTICS ARE GOOD, AND THE RECEIVER SENSES THE ICEMAKER.
NO LIGHT, UNPLUG THE REFRIGERATOR FOR 5 SECONDS AND REPEAT TEST.

SERVICE SHEET

W10336447 A

⚠WARNING

Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

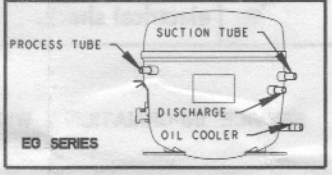
- Normal operating conditions are viewed when the air and temperature controls are at mid-sitting, freezer section 0 to -5°F and unit is cycling.

NOTE: Watt and pressure readings will vary and are influenced by the existing condition of the appliance, such as iced-up evaporator, condition of condenser, defrost cycle, pull-down time and customer use.

PERFORMANCE DATA
(NORMAL OPERATING CONDITIONS)

AMB	WATTS	SYSTEM PRESSURE (PSIG) HIGH SIDE	LOW SIDE
70°	140±20	95 ± 20	-7 TO 3
90°	150±20	135 ± 20	-4 TO 3
110°	170±20	185 ± 20	-2 TO 4

(OIL COOLER IS OPTIONAL)
EMBRACO



SERVICE INFORMATION (W10281960 B)

1. COMPRESSOR SUCTION AND PROCESS STUBS MAY NOT BE INTERCHANGED UNLESS INDICATED BY **.
2. REFRIGERANT CHARGE MUST BE APPLIED TO HIGH SIDE ONLY.
3. ICE MAKER AND WATER VALVE NOT ORIGINAL EQUIPTMENT ON ALL MODELS.
4. NOTE: ICE MAKER CYCLE MUST BE INITIATED ELECTRICALLY. DO NOT TRY TO MANUALLY START CYCLE.
5. SERVICE DEFROST BI-METALS -50°F OPEN.
6. PART NUMBER CAN BE FOUND ON THE COMPONENT.

SERVICEABLE ELECTRICAL PARTS MATRIX (COMPONENTS BY CUBIC FOOT SIZE)

SERVICEABLE PARTS	20/22 CUBIC FOOT	25, 26 AND 27 CUBIC FT		WATTAGE	RESISTANCE
	120V				
COMPRESSOR		EGYS70	EGX70		
		W10260368	W10200250		
RUN WINDINGS	*				1-5
START WINDINGS	*				3-11
START DEVICE, OVERLOAD	See Note 6				
RUN CAPACITOR (IF EQUIPPED)	See Note 6				
THERMISTOR	See Note 6				2.7K@77°F, 7.964K@36°F, 23.345K@0°F
MAIN CONTROL (Unit copartment)	See Note 6				
USER INTERFACE	See Note 6				
BAFFLE MODULE (OPT)	W10251495 / W10268666				
DEFROST TIMER (OPT)	See Note 6				
ADAPTIVE DEFROST ** (OPT)	See Note 6				
ADC/FILTER INDICATOR (OPT)	See Note 6				
DEFROST HEATER	See Note 6			435-465	28-34
DEFROST BI-METAL	See Note 6				
EVAPORATOR FAN	See Note 6			2-9	
CONDENSER FAN	See Note 6			3-12	

** PRIMARY SOURCE PART NUMBER

ELECTRONIC CONTROL FEATURES

The dispenser user interface in this appliance controls both the product cooling and the dispensing systems. The product cooling diagnostics are first (see this page) followed by the dispensing diagnostics (see back of this page). The cooling portion of the electronic control in this appliance controls the temperatures in the refrigerator and freezer compartments independently, delays the operation of the evaporator fan, and pulses the defrost heater. The fan delay and pulsed defrost features are controlled in the following manner:

1. Evaporator Fan Delay - The electronic control delays the evaporator fan from coming on for 60 seconds after the compressor has turned on, and the evaporator fan stays on for 90 seconds after the compressor has turned off.
2. Pulsed Defrost Heat - During the defrost cycle the heater is energized continuously for the first 5 minutes. It is then cycled off for 60 seconds and on for 120 seconds. This on/off cycle is repeated until the bi-metal opens or the maximum defrost time (21 minutes) is reached.

SERVICE DIANOSTICS MODE

To **ENTER SERVICE DIAGNOSTICS Mode:** Press SW1 and SW2 simultaneously for 3 seconds. Release both buttons when you hear the CHIME indicator.
Unit must not be in Lockout prior to entering SERVICE DIAGNOSTIC MODE.
The display will show 01 to indicate the control is in step 1 of the diagnostics routine.
To **EXIT SERVICE DIAGNOSTICS Mode**, do one of the following 3 options:
1)Press SW1 and SW2 simultaneously for 3 seconds.
2) Disconnect the product from power.
3) Allow 20 minutes to pass.
Following the exit of the diagnostic mode, the controls will then resume normal operation.

SWITCH DIAGRAM

SW1 SW2 SW3 SW4 SW5 SW6

Cooling diagnostics are steps 1 through 7. Dispensing diagnostics are steps 8 through 30.
Each step must be manually advanced. Press SW5 to move to the next step in the sequence. Press SW4 to back up in the sequence to the previous step.Diagnostics will begin at Step 1.Each step is displayed in the two digits of the dispenser user interface display. The step results are displayed in the two digits on dispenser user interface display 2 seconds after the step number is displayed.An amber LED will be shown to designate that the step number is being displayed and a red LED will be shown to designate that the status of the step is being displayed.
All button and pad inputs shall be ignored and all inputs shall be off, except as described in the actions for each step.
Note: The ice door motor cycles 1 minute after an ice dispensing.

Service Tip: If the control does not respond, remove power from the entire appliance for 10 seconds. Re-apply power, wait 10 seconds, and perform the service diagnostics routine.

Step No.	Component Tested	Suggested Diagnostics Routine: COOLING system steps 1-7. DISPENSING system steps 8-30.	Component Status Indicator
1	FC thermistor	This is an internal board test. The board will check the resistance value of the thermistor and display the results on the RC Temp Display.	01=Pass 02=Open 03=Short
2	RC thermistor	This is an internal board test. The board will check the resistance value of the thermistor and display the results on the RC Temp Display.	
3	Evaporator fan motor and Air baffle motor	Verify air flow from the evaporator fan. Check to see if the baffle opens and closes.	01=Fan ON, Air Baffle is open 02=Fan ON, Air Baffle is closed (not available on motors without feedback)
4	Compressor/Condenser Fan Motor	Line voltage switched to components from board. Verify 120VAC between line and neutral at motor.	01=ON 02=OFF
5	N/A	N/A (This step bypassed automatically)	N/A
6	Defrost heater/Bi-metal	Line voltage switched to components from board, verify 120VAC between line and neutral at heater. Under some conditions, the Bi-metal can take a few minutes to close the circuit. Note: If Bi-metal is open, it will need to be by-passed for heater to operate. See Note below.	Blank Until get a valid reading 01 = Bimetal Closed 02 = Bimetal Open
7	Defrost Mode	The Defrost Mode can be set by using SW3. In ADC Mode the product will automatically defrost after a minimum of 8 hours of compressor runtime and up to maximum of 96 hours of compressor runtime, depending upon product usage. In Basic Mode the product will automatically defrost after 8 hours of compressor runtime. The Defrost Mode must be set to ADC ON before exiting the Service Diagnostic Mode. Press SW5 to indicate the completion of this step and to continue with dispenser service routine.	01 = ADC ON 02 = Basic Mode ON (8 hour timer)

ATTENTION: IF BI-METAL IS BY-PASSED FOR TESTING (IF APPLICABLE), DO NOT OVERHEAT EVAPORATOR AREA.

LIT-SERVICE SHEET NO.
W10336447 A

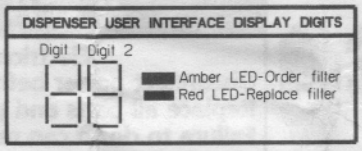
LIT-SERVICE SHEET NO.
W10336447 A

In some European factories the letter "W" of the part code mentioned herein will be automatically replaced by the number "4000" (e.g. "W12345678" becomes "400012345678")

SERVICE SHEET

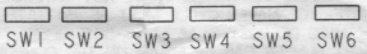
⚠WARNING

Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.



NOTE: The step number is shown first, followed by the status of the step 2 seconds after the step number is displayed. When the step number is being shown, the amber LED will be on. When the status of the step is being shown, the red LED will be on.

SWITCH DIAGRAM



SERVICE INFORMATION (W10336449 A)

Step #	Component Tested	Suggested Diagnostics Routine: COOLING system steps 1-7. DISPENSING system steps 8-39.	Component Status Indicator
8	All UI indicators	Verify that all LED indicators and UI display digits turn on automatically.	All indicators ON
9	UI Button and Pad Test	Displays the User Interface Buttons and Ice and Water Pads status as described in the Component Status Indicator column. NOTE: Do not use SW4 and SW5 as these are used only to navigate through the Service Diagnostics.	Digit 1 Digit 2 1 0 = SW1 Pressed 2 0 = SW2 Pressed 3 0 = SW3 Pressed 6 0 = SW6 Pressed 0 1 = Ice Pad Pressed 0 2 = Water Pad Pressed 0 3 = Ice and Water Pads Pressed NOTE: SW4 and SW5 ARE USED FOR NAVIGATION AND ARE NOT DISPLAYED.
10	N/A	N/A (This step is bypassed automatically)	N/A
11	Dispenser Lighting	Pressing SW3 will change the dispenser lighting setting from OFF(0%) to ON(100%) To DIM(50%)	Blank
12	Accent Lighting	Turn ON all Light Modules (ice bucket light/Pad light).	Blank
13	Dispenser Housing Heater Status	Displays the Dispenser Housing Heater status on the UI display. Press SW3 to change status.	01 = ON 02 = OFF
14	N/A	N/A (This step is bypassed automatically)	N/A
15	Ice Level Sensor (LV-IDI)	Reads the Ice Bin Status	01 = BIN_FULL_OR_NOT_PRESENT 02 = BIN_NOT_FULL_AND_PRESENT
16	RC Door Switch Input	Displays the RC Door status in realtime on the UI display. Verify that the open and close status display correctly	01 = RC Door Open 02 = RC Door Closed
17	FC Door Switch Input	Displays the FC Door status in realtime on the UI display. Verify that the open and close status display correctly.	01 = FC Door Open 02 = FC Door Closed
18	Ice Door Motor	Displays the Ice Door stepper motor state on the UI display. Initiate ice dispence and verify that the mechanical operation of the ice door coorresponds to the component status indicator. NOTE: Ice door will have a delay in closing after an ice dispence is initiated.	01=Closed, 02=Opening, 03=Open, 04=Closing
19	Fill tube heater status.	Control the Fill tube Heater using the CHANGE SETTING KEY(toggle between On and Off).	01 = ON 02 = OFF
20	Water Filter Usage Rating	Displays in two sequential flashes the total water usage rating in gallons for the water filter on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
21	Water Filter Time Rating	Displays in two sequential flashes the total time rating in days for the water filter on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
22	Water Filter Usage	Displays in two sequential flashes the current water filter status in gallons used since last reset on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
23	Water Filter Time	Displays in two sequential flashes the current water filter status in days since last reset on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
24	Water Filter Reset	Display in two sequential flashes the current times the Water Filter was reset on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
25	Water Dispensing and icemaker fill test.	Simulate an icemaker fill. Then the ice maker will show icemaker fill status. Press the Water Pad to initiate the water dispence.	Digit 1: 0= Icemaker valve OFF, 1 = Icemaker valve ON Digit 2: 0= Water valve OFF, 1= Water valve ON
26	Main Control Software Version	Displays in three sequential flashes the Main Control software version on the UI display. Note: This is repeated displayed during all time in this step.	00/00/00 to 99/99/99
27	Dispenser UI Control Software Version	Displays in three sequential flashes the Dispenser UI Control software version on the UI display. Note: This is repeated displayed during all time in this step.	00/00/00 to 99/99/99
28	N/A	N/A (This step bypassed automatically)	N/A
29	Low Voltage IDI SW Version.	Reads the LV-IDI SW Version.	XX XX XX
30	N/A	N/A (This step bypassed automatically)	N/A
31	N/A	N/A (This step bypassed automatically)	N/A
38	Forced Defrost mode	Set the Forced Defrost Mode by selecting on the "CHANGE SETTING KEY". The Forced Defrost command shall be sent at the exit of Service Mode. No Forced Defrost = Defrost does not resume after exit from SVC: Short Defrost = minimum TTD: Long Defrost = maximum TTD: Note: "No Forced Defrost" is the default	OF = No Forced Defrost Sh = Short Defrost Lo = Long Defrost
39	N/A	N/A (This step bypassed automatically)	N/A
42	UI EEPROM Map Version	Reads the EEPROM Map Version	XX XX XX
43	UI FLASH Map Version	Reads the FLASH Map Version	XX XX XX
49	Flow Rate Mode	Set the Flow Rate Value by selecting on the "CHANGE SETTING KEY" to increase Flow Rate value by 1 or "LIGHT SETTING KEY" to decrease Flow Rate value by 1. The range will be from 1 - 99. The flow rate value shall be sent at the exit of the service mode. 2. This value shall be stored on EEPROM (in the next Power-up the Flow Rate Value shall be initialized according this setting).	" XX" Current Flow Rate Value blinking.

In some European factories the letter "W" of the part code mentioned herein will be automatically replaced by the number "4000" (e.g. "W12345678" becomes "400012345678")